

EXHIBIT A

Original Defendant NEC Corporation's Opening Claim Construction Brief (Dkt. 29)

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

WSOU Investments, LLC d/b/a Brazos Licensing and Development, Plaintiff, v. NEC Corporation, Defendant.	Case No.: 6:20-cv-00923-ADA Case No.: 6:20-cv-00924-ADA Case No.: 6:20-cv-00925-ADA Case No.: 6:20-cv-00926-ADA Case No.: 6:20-cv-00927-ADA Jury Trial Demanded
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DEFENDANT NEC CORPORATION'S OPENING CLAIM CONSTRUCTION BRIEF

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TABLE OF ABBREVIATIONS

Abbreviation	Description
WSOU	Plaintiff WSOU Investments, LLC d/b/a Brazos License and Development
NEC	Defendant NEC Corp.
The Parties	NEC and WSOU
'103 patent	U.S. Patent No. 7,577,103
'398 patent	U.S. Patent No. 7,885,398
'017 patent	U.S. Patent No. 8,041,017
'213 patent	U.S. Patent No. 8,103,213
'918 patent	U.S. Patent No. 9,065,918
The Asserted Patents	Collectively, the '103 patent, the '398 patent, the '017 patent, the '213 patent, and the '918 patent
POSITA	Person Of Ordinary Skill In The Art

** Emphasis added unless indicated otherwise.*

I. INTRODUCTION

NEC Corporation (“NEC”) presents its proposed constructions for the sixteen claim terms most likely to impact the outcome of its dispute with WSOU. That dispute involves five different cases, collectively asserting a total of five unrelated patents.

Many claim terms of these patents are indefinite. This includes many terms that recite “means for” performing certain functions, but which lack any clearly-linked, sufficient specification structure as required by pre-AIA 35 U.S.C. § 112, ¶ 6. This also includes additional, related § 112, ¶ 6 claim terms that recite “computer program code configured to” perform a function or “the processor being configured to” perform a function, which are similarly indefinite. And, this further includes terms that, while not falling under § 112, ¶ 6, simply lack any plain and ordinary meaning to a person of ordinary skill in the art (“POSITA”), and are indefinite due to the lack of guidance and reasonable specificity from the specification. Yet other claim terms, while definite, are much narrower than WSOU espouses, particularly in light of the specification, prosecution history, and Federal Circuit precedent.

During claim construction discovery, WSOU’s proposed constructions have been a moving target. Perhaps, though, it is more accurate to refer to WSOU’s lack of proposed constructions. WSOU originally took the position that *no* claim terms required construction from *any* of its five asserted patents—including even those reciting “means for” performing specific functions under § 112, ¶ 6. (*See* Ex. 9.) But, WSOU eventually retreated, conceding that these terms were governed by § 112, ¶ 6, but identifying only scant corresponding structure. (*See* Ex. 10, at 16–22, 26–30 (identifying alleged corresponding structure for the “means for” terms but failing to acknowledge they were governed under § 112, ¶ 6); Ex. 11, at 23–32, 44–52 (conceding that these terms were governed by § 112, ¶ 6 while relying on the same, previously identified structure).) Then, changing its tactics again, WSOU purported to “supplement” its

proposed constructions by adding lengthy new specification and figure citations for § 112, ¶ 6 terms. (*See* Ex. 12.) WSOU’s proposed constructions for non-§ 112, ¶ 6 terms also morphed, from asserting that those terms had plain and ordinary meanings requiring no construction, to providing alternative constructions or other “explanations” about what the supposed unconstrued plain and ordinary meaning would be. (*See* Ex. 11, at 1–2, 12, 14, 53.)

Setting aside WSOU’s ever-changing, and likely still unsettled, claim construction positions, NEC’s proposals should be adopted. Those proposals accurately reflect the meaning of the claim terms to a POSITA when viewed in light of the claim language, the specification, and the prosecution history. NEC’s proposals also accurately reflect when there simply is no such discernable meaning due to indefiniteness. NEC therefore respectfully requests that the Court adopt its proposed constructions for the reasons set forth herein.

II. APPLICABLE LAW

A. General Principles

“[T]he words of a claim are generally given their ordinary and customary meaning ... to a person of ordinary skill in the art at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (internal citation and quotation omitted). “Importantly, the person of ordinary skill in the art is deemed to read the claim term ... in the context of the entire patent, including the specification.” *Id.* at 1313. Patent claims “must be read in view of the specification, of which they are a part. ... [T]he specification is always highly relevant Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* at 1315 (internal citations and quotation omitted).

B. Means Plus Function Claim Terms¹

An element may be expressed in means-plus-function language, governed by pre-AIA 35 U.S.C. § 112, ¶ 6.² Courts apply a two-step approach to construe a means-plus-function limitation. *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003). The first is to identify the function. *Id.* The second is to identify the corresponding structure in the specification. *Id.* The specification must clearly link a corresponding structure to the claimed function. *Id.*; see also *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1312–14 (Fed. Cir. 2001); *B. Braun Medical, Inc. v. Abbott Labs.*, 124 F.3d 1419, 1425 (Fed. Cir. 1997). The patentee bears the burden of establishing the requisite clear linking. *Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 949 (Fed. Cir. 2007).

When a claim term lacks the word “means,” § 112, ¶ 6 will nonetheless apply if the claim term fails to “recite sufficiently definite structure” or else recites a “function without reciting sufficient structure for performing that function.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015) (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)). Generic “nonce words that reflect nothing more than verbal constructs may be used in a claim in

¹ The Court instructed the Parties that they should limit briefing to 16 terms. This brief therefore addresses the 16 most significant terms to be heard at the *Markman* hearing. However, NEC’s understanding also is that unless rendered moot, the law requires all § 112, ¶ 6 terms to be eventually construed by the Court. (See Appendix A at 1–3.) As a result, and to avoid any assertion of waiver or forfeiture by WSOU, NEC has attached as Appendix A its positions for all remaining § 112, ¶ 6 terms. As explained by Appendix A, NEC understands that these additional § 112, ¶ 6 terms will not be heard at the *Markman* hearing, and NEC does not expect WSOU to address them at this time in WSOU’s responsive brief. Indeed, if NEC’s claim construction positions presented in this opening brief are adopted, then the constructions of most additional § 112, ¶ 6 terms of Appendix A should indeed be moot due to the indefiniteness of their claims.

² The applications for all five Asserted Patents were filed before March 16, 2013, making each patent subject to pre-AIA § 112, ¶¶ 2 and 6. Nonetheless, this brief may also refer to post-AIA 35 U.S.C. § 112(b) and (f) for indefiniteness and means-plus-function issues, respectively.

a manner that is tantamount to using the word ‘means’ because they ‘typically do not connote sufficiently definite structure’ and therefore may invoke” § 112, ¶ 6. *Id.* at 1350.

Where the function of a § 112, ¶ 6 limitation is performed by a general-purpose computer or processor, the corresponding structure must include the special-purpose algorithm to perform the claimed function. *WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). An algorithm is “a step-by-step procedure for accomplishing a given result.” *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1365 (Fed. Cir. 2012). Any such algorithm must be “clearly linked” in the specification to the function recited in the claim to qualify as a “corresponding structure” under § 112, ¶ 6. *See B. Braun*, 124 F.3d at 1424; *Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1318 (Fed. Cir. 2012). A general-purpose computer or processor alone cannot be sufficient structure, and failure to disclose and link a specific algorithm to the claimed function makes the claims invalid as indefinite. *See e.g., Net MoneyIn, Inc. v. Verisign, Inc.*, 545 F.3d 1359, 1366–67 (Fed. Cir. 2008); *Aristocrat Techs. Austl. Pty Ltd. v. Int’l Game Tech.*, 521 F.3d 1328, 1336–38 (Fed. Cir. 2008). The failure of the specification to disclose an algorithm sufficient to perform the entirety of the recited function cannot be cured by expert testimony. *Noah*, 675 F.3d at 1312, 1318–19; *Function Media v. Google, Inc.*, 708 F.3d 1310, 1319 (Fed. Cir. 2013). It is also irrelevant whether a POSITA could readily develop a program, or determine how to construct an algorithm, to perform the function. *Noah*, 675 F.3d at 1317; *Function Media*, 708 F.3d at 1318; *Verisign*, 545 F.3d at 1366–67.

Similarly, the recitation of mere “code” executable to perform a special purpose computer function does not constitute sufficient structure to perform that function and avoid the invocation of § 112, ¶ 6. *See, e.g., Dyfan, LLC v. Target Corp.*, 2020 WL 8617821, at *5–7 (W.D. Tex. Nov. 25, 2020) (finding claim terms reciting “code configured to be executed” for

performing special purpose computer functions to be governed by § 112, ¶ 6); *Cypress Lake Software, Inc. v. Samsung Elecs. Am., Inc.*, 382 F. Supp. 3d 586, 615–16, 629, 635 (E.D. Tex. May 10, 2019); *Global Equity Mgmt. (SA) Pty. Ltd. v. Expedia, Inc.*, 2016 WL 7416132, at *29–30, 31, 32–33 (E.D. Tex. Dec. 22, 2016); *Advanced Ground Info. Sys. v. Life360, Inc.*, No. 14-80651, 2014 WL 12652322, at *6–7, 8 (S.D. Fla. Nov. 21, 2014), *aff’d on other grounds*, 830 F.3d 1341 (Fed. Cir. 2016).

C. Indefiniteness

“The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” Pre-AIA 35 U.S.C. § 112, ¶ 2. “[A] patent is invalid for indefiniteness if its claims, read in light of the specification ... and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). In so holding, the Supreme Court overturned the Federal Circuit’s earlier, more stringent “insolubly ambiguous” indefiniteness standard. *Id.* For a means-plus-function claim term, definiteness requires the specification to clearly link corresponding, sufficient structure to the claimed function; further, after-the-fact expert testimony cannot act as a substitute for this clear linking requirement. *See Elekta AB*, 344 F.3d at 1211; *B. Braun*, 124 F.3d at 1424–25 (“Because Braun’s specification does not adequately disclose the valve seat as structure that holds the disc firmly in place, Braun has failed to particularly point out and distinctly claim that particular means.”); *Dyfan*, 2020 WL 8617821, at *3.

III. EXPERT EVIDENCE

For those claim terms where expert testimony will assist the Court, including for certain terms that are indefinite or subject to pre-AIA 35 U.S.C. § 112, ¶ 6, NEC has submitted the

expert declaration of Dr. Matthew Shoemake as Exhibit 1 to this brief. (*See generally* Ex. 1 (hereafter, “Shoemake Decl.”).)³

IV. U.S. PATENT NO. 7,577,103 (CASE NO. 6:20-CV-923-ADA)

The Parties do not have any disputed claim terms for the ’103 patent. Further, NEC has sought early resolution of WSOU’s infringement assertion of the ’103 patent because sales of NEC’s accused product have been *de minimis*, totaling \$18,400, with no future sales anticipated. (*See* Ex. 13.) NEC mentions this issue in this claim construction brief not because it expects the Court to take any action now, but to demonstrate to the Court that NEC has attempted to narrow the disputes between the Parties, and also to minimize the number of claim terms for construction across the five cases asserted against NEC. Unfortunately, WSOU has not dismissed or otherwise agreed to resolve this case despite these minimal sales of NEC’s accused products.

V. U.S. PATENT NO. 7,885,398 (CASE NO. 6:20-CV-924-ADA)

The Parties dispute the meaning of two terms in the ’398 patent. NEC asked WSOU to dismiss its assertion of the ’398 patent because there have not been any U.S. sales of the accused NEC product, which would seem to eliminate any need to construe these terms. (*See* Ex. 14.) Unfortunately, WSOU has refused to dismiss that patent or this case. NEC must therefore present these two terms for construction, in the event that WSOU later attempts to accuse other NEC products of infringing the ’398 patent.

³ For the additional § 112, ¶ 6 terms of Appendix A, NEC also has submitted a second supplemental declaration of Dr. Shoemake as Appendix B addressing those terms.

WSOU asserts claims 1, 10, and 13. The '398 patent generally relates to communicating information over a network from one node to another. Figure 2 of the '398 patent, reproduced below, shows an example of a four-node network 20.

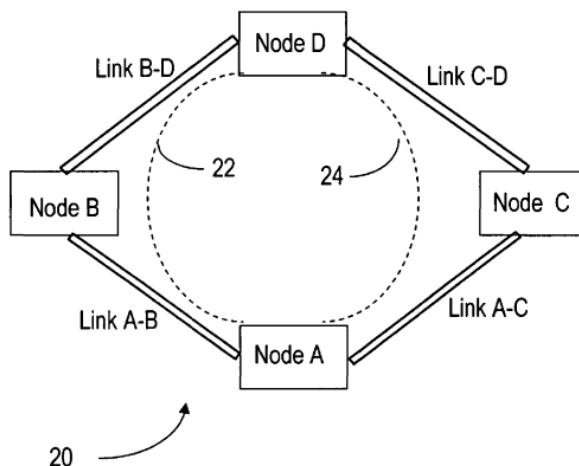


FIGURE 2

In this example, originating Node A sends information to destination Node D. (See '398 patent at 6:15–18.) This can occur through two possible routes, “namely, a first route R1 denoted 22 along links A-B and B-D, and a second route R2 denoted 24 along links A-C and C-D.” (*Id.* at 6:38–45.) The '398 patent relates to determining different route performance values for different possible routes such as R1 and R2 above, and then “load balancing” information that is sent across one or both of these different routes from Node A to Node D. (See *id.* at 6:49–8:5; see also Shoemake Decl. ¶ 47.)

A. Terms Not Subject to 35 U.S.C. § 112, ¶ 6

1. “Load balancing” (claims 1, 10, and 13)

NEC's Construction	WSOU's Construction
“splitting communication into two (or more) routes and balancing the traffic on each route”	No construction necessary – plain and ordinary meaning, which is “process of

	managing the routing of network traffic over two or more routes”
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WSOU asserts that “load balancing” does not require construction, and that this term has an accepted plain and ordinary meaning to a POSITA. But the term “load balancing” can have different meanings in different contexts. (*See* Shoemake Decl. ¶ 51.) WSOU’s “plain and ordinary meaning” is particularly problematic because “load balancing” is not just *any* “process of **managing** the routing of network traffic” over possible routes. Instead, “load balancing” is a specific process that attempts to **balance** network traffic by splitting it among different routes, according to certain criteria. (*Id.* ¶¶ 56–57.) Indeed, WSOU’s non-construction conspicuously omits the concept of “balancing” altogether—seeking instead to merely “manage” traffic.

The ’398 patent explains “load balancing” as splitting network traffic into different routes for purposes such as performance and efficiency:

Load balancing attempts to fairly distribut[e] the traffic over all the links of the network to avoid a local congestion in particular resources and to better utilize the resources across the network.

(’398 patent at 1:42–45.) This requires more than simply “managing” network traffic, as shown by the different “balancing” examples of Figure 13, which depend upon particular attributes and “load balancing criteria.” (*See* ’398 patent at 6:49–9:30 (balancing Scenarios 1–4); *see also* Shoemake Decl. ¶¶ 51–55.) Indeed, the specification presents scenarios where load balancing is based on service category criterion, (’398 patent at 6:49–7:6), user-specified priority, (*id.* at 7:7–28), bandwidth, (*id.* at 7:30–63), and a set of different criteria (*id.* at 8:52–9:30). In light of these examples, “managing network traffic alone” could not inherently accomplish load balancing—particularly if the end result is unfair distribution of traffic, network congestion, or improper utilization of resources, which the ’398 patent explains are undesirable results that load balancing seeks to prevent. (’398 patent at 1:42–45; 4:58–63 (“[r]outing module 3 may be enhanced with

the capability of first selecting from the possible routes provided by the routing module *only the routes that have the lower cost, or the lower number of hops, etc.* These design options may simplify the load balancing process *on the expense of a less precise balancing.*”); *see also* Shoemake Decl. ¶ 57.)

That “load balancing” must “balance” traffic is supported by extrinsic evidence. WSOU itself cites IBM’s Dictionary of Computing that defines “load balancing” as “a technique *for balancing* the message flow between any pair of TCAM nodes by assigning different paths to different messages flowing between them.” (Ex. 16, at 4.) This comports with Newton’s definition of “the even distribution of customer traffic volume across all loading units in a switching entity.” (Ex. 17, at 3–4.) And while WSOU’s other dictionary, which defines “load balancing” as “the process of routing traffic over two or more routes rather than one,” (Ex. 18, at 5), does not use the word “balancing,” it also does not use WSOU’s word “managing,” which unduly broadens the definition without any support. (*See also* Shoemake Decl. ¶¶ 57–58 (explaining why WSOU’s definition is overbroad).)

For the above reasons, NEC’s proposal is correct. It is the plain and ordinary meaning of “load balancing” to a POSITA, and is consistent with the ’398 patent specification. On the other hand, WSOU’s overbroad proposal incorrectly equates “load balancing” to any and all processes of managing the routing of network traffic over two or more routes. It should be rejected.

2. “Service category criterion” (claims 1, 10, and 13)

NEC’s Construction	WSOU’s Construction
<i>Indefinite</i>	No construction necessary – plain and ordinary meaning

“Service category criterion” appears in each ’398 patent asserted claim. Thus, if this term is indefinite, all asserted claims are invalid. This term appears in three similar limitations:

[1.d] determining a third route performance value for each possible route, for a call attribute corresponding to a *service category criterion* ('378 patent at 9:44–46); and

[10.e] and [13.e] a third aggregated attribute calculation unit that determines a third route performance value for the list of possible alternate routes for a call attribute corresponding to a *service category criterion* ('378 patent at 10:53–56 and 12:1–4).

WSOU asserts that no construction is required. This term, however, is indefinite because “service category criterion” does not have any plain and ordinary meaning to a POSITA, and the specification of the '398 patent does not provide or explain any such meaning.

NEC’s expert Dr. Shoemake explains that there is no plain and ordinary meaning of “service category criterion,” including in the context of the '398 patent. (Shoemake Decl. ¶¶ 59–65.) This is both because there is no plain and ordinary meaning of “service category,” nor is there any such meaning for “criterion” of a service category. (*Id.* ¶ 59.) As a result, a POSITA simply would not understand the scope and meaning of “service category criterion” in the patent’s claims. During claim construction discovery, WSOU did not identify technical dictionaries, treatises, or other authoritative sources purporting to ascribe any plain and ordinary meaning to this term. (*See* Ex. 10, at 2–3.) Instead, the only extrinsic evidence WSOU identified is a possible forthcoming declaration of its expert Dr. Polish. (*Id.*) Regardless of what Dr. Polish may say, his testimony cannot overcome the lack of any explanation of the meaning of “service category criterion” in the specification.

As explained by Dr. Shoemake, the specification does not explain or otherwise define the meaning of “service category” or a “criterion” for such a category. (*See* Shoemake Decl. ¶¶ 60–63.) Instead, the specification uses the phrase “service category criterion” as a tautology, assuming that a POSITA would simply understand or deduce what the phrase means. (*Id.*) As an example, the specification states:

A call is also defined by one or more attributes. An example of a user-specified call attribute (or a user-specified attribute) is the call priority, or *a call service category*, call bandwidth, etc.

(’398 patent at 4:9–12.) Other than stating that a “call service category” may be user-defined, the specification does not explain what is meant by a “service category” or a “criterion” for a service category, or how a “service category criterion” is determined for different possible routes. (Shoemake Decl. ¶ 60.) The same ambiguity is present wherever the ’398 patent mentions a call service category, making no mention of what qualifies as criterion or how to determine them. (*Id.* (discussing ’398 patent at abstract, 2:4–5, 5:35–36, 5:61–63, 6:5–14, and 7:63–8:5).) In sum, the specification does not add any meaningful information reasonably informing a POSITA as to the meaning and scope of the claim term “service category criterion,” as Dr. Shoemake further explains. (*Id.* ¶¶ 63, 65.) The term is therefore indefinite.

VI. U.S. PATENT NO. 8,041,017 (CASE NO. 6:20-CV-925-ADA)

WSOU asserts claims 1–3, 8–10, 16, 17, and 20. One term is disputed for purposes of the upcoming *Markman* hearing.⁴ It recites “calling means” and is subject to § 112, ¶ 6. Although initially asserting that no construction is required (Ex. 10, at 6), WSOU now concedes that this term is subject to § 112, ¶ 6, and must therefore be construed, (Ex. 15). The disputed term appears in asserted claims 8–10.

The ’017 patent relates generally to bridging a third party into an emergency call placed by a calling party to a so-called Public Safety Answer Point (PSAP), *e.g.*, a 911 call center. (*See generally* ’017 patent at Abstract, 1:17–2:38.) The ’017 patent states that when a distressed person makes an emergency call, the person may have a physical or mental disability, be

⁴ As discussed in footnote 1, *supra*, two additional § 112, ¶ 6 terms for the ’017 patent are disputed and discussed in Appendix A, but not presented in this opening brief due to the Court’s 16-term limit for the upcoming *Markman* hearing.

language impaired, or otherwise be unable to effectively explain the emergency situation. (*Id.*) To ensure effective communications, the '017 patent states that “it would be advantageous ... whereby the assistance of one or more third parties could be automatically enlisted to help overcome the communication barrier.” (*Id.* at 2:30–34.) This is accomplished by a call bridge system in which contact information for a third party previously provided by the distressed person can be used later to bridge the third party into an emergency call. (*See id.* at, e.g., 2:42–53.) Notably, the prior art already included call bridging systems allowing a third party to join an emergency call, such as an E911 call to a PSAP. Thus, the '017 patent discloses and claims a particular emergency call bridging system allegedly patentable over the prior art.

A. Terms Subject to 35 U.S.C. § 112, ¶ 6

1. “Calling means” (claim 8)

NEC’s Construction	WSOU’s Construction
<p>Governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function: “automatically originating at least one second call associated with the reserved conference facilities from the node over the telecommunications network to at least one predetermined third party that is different than the calling party and the second party, each third party being previously designated by the calling party along with suitable contact information for the corresponding third party in conjunction with a service feature provided to the calling party via the telecommunications network”⁵</u></p>	<p>Governed by 35 U.S.C. § 112, ¶ 6.</p> <p><u>Function: “automatically originating at least one second call associated with the reserved conference facilities from the node over the telecommunications network to at least one predetermined third party that is different than the calling party and the second party”</u></p>

⁵ Underlining reflects only differences between the Parties’ proposals. NEC originally identified “the network access node serving the terminal used by the calling party and stored contact information for the at least one predetermined third party, as disclosed at 6:36-41, 9:47-59, and equivalents thereof,” as the associated structure but conformed its proposal to simplify the issues for the court.

<p><u>Structure</u>: For example, step 118 of Fig. 2, and the corresponding portions of the specification at 9:47-66, node 30 of Fig. 1 and the corresponding portions of the specification at 6:20-7:28, and equivalents thereof.</p>	<p><u>Structure/material/acts</u>: For example, step 118 of Fig. 2, and the corresponding portions of the specification at 9:47-66, node 30 of Fig. 1, and the corresponding portions of the specification at 6:20-7:28, and equivalents thereof.</p>
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The Parties agree this term is governed by § 112, ¶ 6, but disagree on the claimed function. Specifically, NEC identifies the remainder of the claim limitation as the function, whereas WSOU omits the final clause: “each third party [is] previously designated by the calling party along with suitable contact information for the corresponding third party in conjunction with a service feature provided to the calling party via the telecommunications network.” This language ascribes function that was added to the claims by amendment to secure allowance. WSOU’s omission is improper, and NEC’s proposed function should be adopted.

“[A] court may not construe a means-plus-function limitation ‘by adopting a function different from that explicitly recited in the claim.’” *JVW Enters., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1331 (Fed. Cir. 2005) (quoting *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999)). “In identifying the function of a means-plus-function claim, a claimed function may not be broadened by ignoring the clear limitations contained in the claim language.” *Lucent Techs., Inc. v. Extreme Networks, Inc.*, 367 F. Supp. 2d 649, 673 (D. Del. 2005) (citing *Lockheed Martin Corp. v. Space Sys./Loral, Inc.*, 249 F.3d 1314, 1324 (Fed. Cir. 2001), *judgment vacated on other grounds*, 535 U.S. 1109 (2002)). In *Lucent*, the plaintiff sought to drop the underlined portion from “means contained in said first node for receiving via an associated one of said links said message, said message being originated by a third one of said nodes.” *See id.* The court declined to do so, concluding that the phrase constituted a “further limitation” on the claim. *Id.* at 674.

WSOU’s omission of similar claim language here, “each third party being previously designated by the calling party along with suitable contact information for the corresponding third party in conjunction with a service feature provided to the calling party via the telecommunications network,” improperly reads out of the claim a relevant limitation. By the plain language of WSOU’s own proposed function, the calling means acts to “automatically originat[e] at least one second call” to “at least one predetermined third party that is different than the calling party and the second party,” but the clause WSOU omits reflects that the third party is “previously designated *by the calling party*.”

Moreover, the clause that WSOU omits was added during prosecution to overcome an anticipation rejection. (Ex. 7, at 68–69, 73–74 (Amendment/Request for Reconsideration After Office Action (Jan. 5, 2011)).) Indeed, the applicant argued that the “anticipation rejection ... is clear error because the reference does not disclose or fairly suggest the ‘previously designated’ limitation in the ‘calling means’ sub-element of the ‘node’ element of claim 8.” (*Id.* at 75.) After narrowing the claim to overcome prior art, WSOU cannot now seek a broader construction. *See, e.g., Wang Labs., Inc. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1577–1578 (Fed. Cir. 1997) (“Prosecution history estoppel ... preclud[es] a patentee from regaining, through litigation, coverage of subject matter relinquished during prosecution of the application for the patent.”).

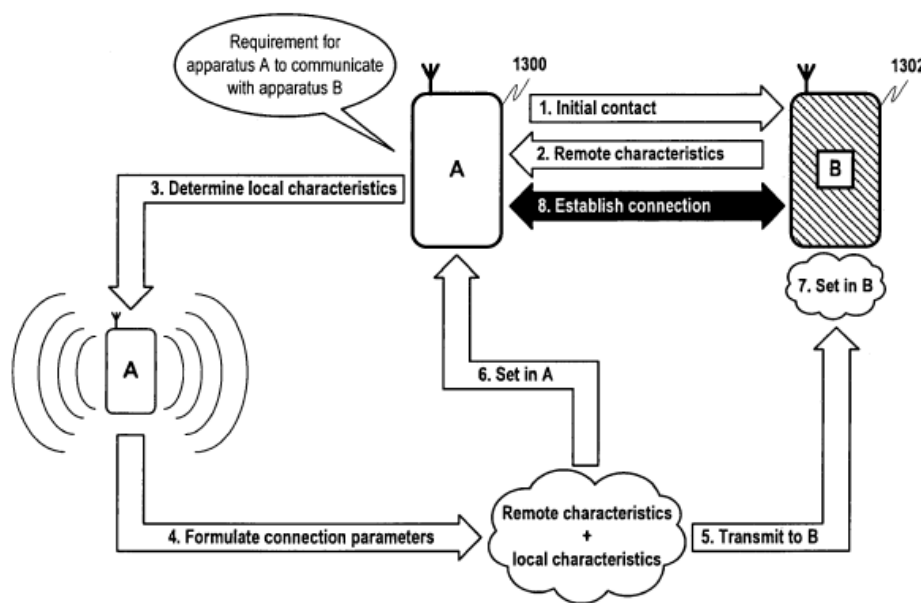
WSOU’s proposed function omits a limitation of claim 8, and improperly broadens the claim’s scope to recapture subject matter specifically disclaimed during prosecution. NEC’s competing construction, however, does not ask this Court to “adopt[] a function different from that explicitly recited in the claim,” *JVW Enterprises*, 424 F.3d at 1331 (quoting *Micro Chemical*, 194 F.3d at 1258), and should therefore be adopted.

VII. U.S. PATENT NO. 8,103,213 (CASE NO. 6:20-CV-926-ADA)

WSOU asserts claims 1, 8, and 22–26 of the ’213 patent. Section VII.A below first discusses the four claim terms that are not subject to 35 U.S.C. § 112, ¶ 6. This includes two terms that are indefinite and found in all asserted claims. Section VII.B below then discusses additional terms that are subject to 35 U.S.C. § 112, ¶ 6, and also indefinite. However, if the Court finds these asserted claims already indefinite due to the non-§ 112, ¶ 6 terms of Section VII.A, then the Court may not need to address the § 112, ¶ 6 issues of Section VII.B.

The ’213 patent generally relates to configuring two devices to communicate with each other by establishing a connection. An example of this process is shown in Figure 13.

FIG. 13



(See ’213 patent at 19:48–20:56.) In this figure, Apparatus A has initial contact with Apparatus B (“1. Initial contact”), and requests certain remote characteristic information from Apparatus B that is sent back to Apparatus A (“2. Remote characteristics”). (*Id.* at 19:62–20:24.) Apparatus A “may also determine [local] characteristics pertaining to itself” (“3. Determine local characteristics”). (*Id.* at 20:25–35.) Apparatus A then vaguely “formulates” a configuration to

be used to connect both apparatuses (“4. Formulate connection parameters”). (*Id.* at 20:35–44.) “After formulation of the configuration is complete,” the configuration is sent to Apparatus B (“5. Transmit to B”), and set in both Apparatus A and B (“6. Set in A” and “7. Set in B”). (*Id.* at 20:45–53.) “After the configuration is set ... either apparatus may initiate communication” with the other and establish a connection to further communicate (“8. Establish connection”) (*Id.* at 20:53–56.) How any of this is accomplished by empty box “A” or empty box “B” is never actually described or disclosed.

As further explained below, the claims and specification of the ’213 patent are at a very high, generic level. They describe the alleged invention in largely vague and functional terms, and never identify any specific hardware, software, algorithms, computer program code, instructions, special-purpose processor, or other structure. The direct result from these deficiencies and the very generic description of the ’213 patent are the indefiniteness and other issues afflicting many of its claim terms, which are discussed below.

A. Terms That Are Not Subject to 35 U.S.C. § 112, ¶ 6

1. **“At least one of supported communication transport configuration information for the [at least one other] apparatus, power status information for the [at least one other] apparatus, processing load information for the [at least one other] apparatus, communication load information for the [at least one other] apparatus, proximate interference information for the [at least one other] apparatus and user preferences configured in the [at least one other] apparatus” (claims 1, 8, and 22–26)**

NEC’s Construction	WSOU’s Construction
Plain and ordinary meaning, i.e., as a conjunctive list in which at least one of <u>each</u> information category must be present.	No construction necessary – plain and ordinary meaning (<i>but a disjunctive, not</i>

	<i>conjunctive, list in which only one of each information category must be present</i>) ⁶
--	--

This claim term appears in every asserted claim of the '213 patent. This term recites the types of “characteristic information” used to formulate and implement a configuration in order to establish communication between apparatuses.

The Parties dispute whether this term recites a conjunctive or disjunctive list and thus whether the “characteristic information” must include at least one of each information category or instead include only one type of information. At the outset, the term comprises a list of information types (power status information, processing load information, etc.) plus the word “and” preceding the final entry in the list. Therefore the list is conjunctive by its own terms.

WSOU’s confusion appears to arise from the preceding phrase “at least one of,” but here the Federal Circuit provides an answer: In *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870 (Fed. Cir. 2004), the Federal Circuit considered a limitation with identical grammatical structure and held that the disputed term required at least one of *each* entry in the list. *See id.* at 886. In that case, the asserted claim was directed to an online television program schedule system comprising a “first means for storing *at least one of* a desired program start time, a desired program end time, a desired program service, *and* a desired program type.” *Id.* at 884. On appeal, plaintiff SuperGuide argued that the phrase “at least one of” required the selection and storage of one or more of the four criteria (*i.e.*, program start time, program end time, program service, and program type) and did not therefore require storing all four criteria. *Id.* at 885. The Federal Circuit disagreed, holding that the phrase “at least one of,” when followed by a

⁶ NEC has added the italicized parenthetical portion footnoted here to explain further WSOU’s construction. NEC has done so to clarify what WSOU asserts is the “plain and ordinary meaning” of this term and, therefore, the nature of the dispute between the Parties.

conjunctive “series of categories of criteria,” required that “the user select *at least one value for each category*; that is, at least one of a desired program start time, a desired program end time, a desired program service, and a desired program type.” *Id.* at 886. So too here, where the disputed term recites a conjunctive series of categories or types of information to be received (or determined) by an apparatus. Following *SuperGuide*, the proper construction of this term requires that the “characteristic information” include some value or parcel of information corresponding to each of the listed information categories.

Indeed, the examiner during prosecution appears to have construed this term in line with *SuperGuide*, and the claims likely would not have issued otherwise. In the Notice of Allowability, the examiner provided the following statement:

[T]he prior art of record discloses method and apparatus for establishing communication between a first communication device (apparatus) to a second communication device (other apparatus) in which the first communication device remotely receives information of the second communication device such as power status information, interference information, and user references [sic].

The prior art of record failed to teach or suggest the receiving information further comprising processing load information and communication load information of the second communication device (other apparatus).

(Ex. 8, at 169 (Notice of Allowability (Nov. 21, 2011)).) Thus, if this term were properly read to require only information of one type, like user preferences, the examiner should have rejected the claims over the prior art that disclosed establishing communication between apparatuses wherein one apparatus receives user preferences from the other apparatus.

The plain text of the claims connotes a conjunctive list, which *SuperGuide* affirms, and the claims would not have issued otherwise. Accordingly, the only workable construction for this term is as a conjunctive list requiring at least one of *each* information category.

2. “Power status information” (claims 1, 8, and 22–26)

NEC’s Construction	WSOU’s Construction
<i>Indefinite</i>	No construction necessary – plain and ordinary meaning

This claim term appears in every asserted claim of the ’213 patent, and is another of the types of “characteristic information” recited by the asserted claims as being used to formulate and implement a configuration in order to establish communication between apparatuses.

This term is indefinite because a POSITA would not understand what is meant by “power status information” for the apparatus. The term “power status information” is too vague and ambiguous, and could mean any number of things, none of which is a well-understood plain and ordinary meaning of this term to a POSITA. As Dr. Shoemake explains, it is unclear whether this term refers to types of power sources or supportable power sources, the remaining amount of power and for which components, power settings and operating limits, transmission power and limits, reception power and limits, different power modes, or something else entirely. (Shoemake Decl. ¶ 113.) Simply put, it is impossible to understand what is meant by “power status information” of an apparatus here without more detail and context. (*Id.*)

Unfortunately, the specification fails to provide this detail and context, leaving this term ambiguous. (*Id.* ¶¶ 114–18.) The specification only uses the term “power status information” of an apparatus in a conceptual and generic sense, rather than explaining the specific scope and meaning of the term. (*Id.* ¶¶ 114–16.) In fact, the specification only exacerbates this indefiniteness by referring to over twenty different types of wireless communication protocols and many different generic apparatus designs, each permutation of which could have countless features that might or might not relate to power and have some sort of “power status

information.” (*Id.* ¶ 117.) WSOU’s proposal to simply not construe this term suffers from the same defect, leaving the claim lacking any reasonable scope and boundaries.

This term also is indefinite because the claims (and specification) recite that the “power status information” is used to formulate a configuration that is then implemented for communication. Thus, the “power status information” cannot be just any or all information about power for the entire device; only certain information might be needed or usable in order to formulate configuration settings that are set for communications between two devices. (*Id.* ¶ 113.) Nonetheless, countless meanings of this term remain, none of which is readily apparent to a POSITA given the lack of any meaningful guidance in the claims or specification. (*Id.* ¶¶ 114–18.)

Because the claims, when read in light of the specification, do not reasonably inform a POSITA what is meant by “power status information” of the apparatus, this term is indefinite.

3. “Communication load information for the [at least one other] apparatus” (claims 1, 8, and 22–26)

NEC’s Construction	WSOU’s Construction
“communication load of an internal controller in the [at least one other] apparatus”	No construction necessary – plain and ordinary meaning, which is “information regarding communication load for the [at least one other] apparatus”

This claim term appears in every asserted claim of the ’213 patent, and is one of the types of “characteristic information” recited by the asserted claims used to formulate and implement a configuration in order to establish communication between apparatuses.

The Parties dispute whether there is a plain and ordinary meaning of this term and, if so, what it is. WSOU presents a tautological explanation of its “plain and ordinary meaning” construction, asserting the term refers to “information regarding the communication load for the apparatus.” However, the problem with WSOU’s proposal is that there are many possible

meanings to a POSITA for the term “communication load information for the apparatus,” and WSOU’s is only one possible meaning. (See Shoemake Decl. ¶¶ 105–06.) Based upon the claim language alone, a POSITA would not know to what type of information “communication load information” refers. It is unclear whether this term might be referring to communications internal to the apparatus (e.g., entirely within Apparatus A or B of Figure 13), or communications external to the apparatus (e.g., between Apparatus A and B of Figure 13). (*Id.* ¶ 106.) It is also unclear which components or portions of the apparatus are measured or analyzed to determine the communication load, such as processors, memories, storage, buses, or other components. (*Id.*) Without more, there is no readily apparent or well understood plain and ordinary meaning of this term.

Fortunately, the specification of the ’213 patent provides the necessary guidance to answer these questions. Specifically, when using the phrase “communication load” in relation to an apparatus, the specification refers to the load caused by communications with a controller within the apparatus, stating:

Referring now to FIG. 9B, the inclusion of distributed control component 704 onto MCS 700 is shown in more detail. Distributed control component 704 includes at least priority controller 740 coupled to MCS interface 750. MCS interface 750 may allow ***priority controller 740 to send information to, and receive information from, radio activity controllers 720*** via a low-traffic connection dedicated to the coordination of communication resources in WCD 100.

* * * * *

Further, common interface system 620 of [wireless communications device] WCD 100 may be relieved of having ***to accommodate communication traffic*** from distributed control component 704, reducing the overall ***communication load*** in master control system 640.

(’213 patent at 14:33–40 and 49–58.) This same portion of the specification explains the concern with distributing and reducing communication load to improve efficiency, stating:

Performance may improve because *quicker communication* between distributed control components 702 and 704 may result in faster relative priority resolution in radio activity controllers 720.

(*Id.* at 14:45–48.) Dr. Shoemake further steps through the specification embodiments disclosing communications within an apparatus, and why a POSITA would understand from them, and specifically the above portions, that “communications load information” of the apparatus is referring to the communication load of an internal controller. (*See* Shoemake Decl. ¶¶ 107–10.)

As a result, a POSITA in light of the specification would understand that NEC’s proposed construction of this term is correct. WSOU’s contrary, incorrect construction should be rejected because it does not provide any help or guidance, and it attempts to assert a plain and ordinary meaning for this term where none exists to a POSITA.

4. “Proximate interference information for the [at least one other] apparatus” (claims 1, 8, and 22–26)

NEC’s Construction	WSOU’s Construction
<i>Indefinite</i>	No construction necessary – plain and ordinary meaning

This claim term appears in every asserted claim of the ’213 patent and is yet another of the types of “characteristic information” recited by the asserted claims as being used to formulate and implement a configuration in order to establish communication between apparatuses. This term is indefinite due to the word “proximate.” A POSITA would understand “proximate” to be a term of degree, requiring the interference (and information about it) to be a certain distance or range from the remote device. (*See* Shoemake Decl. ¶ 121.) However, there is no accepted, plain and ordinary meaning of the word “proximate” to a POSITA, including how close the interference or interfering device must be in order for any interference to be “proximate

interference.” (*Id.* ¶¶ 119–21.) For this reason, and because this is a term of degree, definiteness requires the specification to provide some objective measurement or other clear guidance as to the claim scope beyond mere subjective opinion. *See, e.g., Interval Licensing v. AOL, Inc.*, 766 F.3d 1364, 1370–74 (Fed. Cir. 2014) (holding claim term “unobtrusive manner” is a “purely subjective” claim phrase that lacking definition in the written description, and therefore indefinite); *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1246–56 (Fed. Cir. 2008) (affirming district court holding that the claim term “fragile gel” was a term of degree but indefinite because the upper bound of fragility could not be ascertained); *RideApp, Inc. v. Lyft, Inc.*, 2019 WL 7834175, at *11–12 (N.D. Cal. Oct. 16, 2019), *aff’d*, 845 F. App’x 959 (Fed. Cir. 2021) (holding that “wireless means of detecting the proximity of the passenger and alerting the passenger of the proximity of the vehicle” was indefinite because “the specification is silent on how proximity is to be calculated”).

As with other similar terms of degree, the ’213 patent specification must provide objective guidance about how close any interference is to qualify as “proximate interference,” and for related information about it to qualify as “proximate interference information.” Otherwise, the meaning of “proximate” and what is “proximate interference information” would be purely subjective to a POSITA. (Shoemake Decl. ¶¶ 119–21.) In *Halliburton Energy Services, Inc.*, the Federal Circuit explained different possible ways that the specification can be drafted to resolve ambiguities when claim terms use functional term-of-degree language:

For example, the ambiguity might be resolved by using a quantitative metric (e.g., numeric limitation as to a physical property) rather than a qualitative functional feature. The claim term might also be sufficiently definite if the specification provided a formula for calculating a property along with examples that meet the claim limitation and examples that do not.

514 F.3d at 1255–56. Here, however, the specification does not employ these solutions, or any others, to provide reasonable notice about the meaning of “proximate.” Instead, the specification only uses the word “proximate” in three places, each in a tautological fashion, without any corresponding quantitative metric, formula for calculation, or other objective measure of how far is “proximate” or what is “proximate interference.” (See ’213 patent at, e.g., 5:45–46 (referring only to “the area proximate to the access point” without any indication of how to determine this area or any reference to interference), 18:64 (referring to “the environment proximate to an apparatus” without explaining what this environment is or how far it extends, or any reference to interference), and 20:11–13 (referring to “information regarding ... environmental conditions proximate to the apparatus,” again without further explanation or discussion of interference); see also Shoemake Decl. ¶¶ 122–23.)

WSOU’s plain and ordinary meaning construction does not explain what is meant by “proximate” or what qualifies as “proximate interference information.” Even if WSOU were to propose that “proximate” refers to the “environment” or area near the apparatus, as the specification states, that would not solve the problem because doing so does not provide any precise scope for this term. (See Shoemake Decl. ¶ 122.) As the Federal Circuit further explained in *Halliburton Energy Services, Inc.*, 514 F.3d 1251, “[t]he fact that [the patentee] can articulate a definition supported by the specification, however, does not end the inquiry. Even if a claim term’s definition can be reduced to words, the claim is still indefinite if a person of ordinary skill in the art cannot translate the definition into meaningfully precise claim scope.”

Because the claim term “proximate interference information” is a term of degree, and there is no objective or other definite meaning for what is “proximate” or “proximate interference” and related “information,” this term is indefinite.

B. Terms Subject to 35 U.S.C. § 112, ¶ 6

There are 32 terms in claims 8 and 22–26 that begin with “means for,” “computer program code configured to,” or “the processor being configured to” that are subject to pre-AIA 35 U.S.C. § 112, ¶ 6. As a matter of law, § 112, ¶ 6 requires that these terms be construed to identify the clearly-linked, sufficient corresponding structure (or algorithm) for the claimed function—if any exists. Fortunately, many of these claim terms use similar language, allowing them to be conveniently grouped for claim construction purposes. In light of the Court’s 16-term limit for this brief and the upcoming *Markman* hearing, NEC presents eight of these terms for construction here.⁷ Each of these eight terms is governed by § 112, ¶ 6, but is indefinite for lacking clearly-linked, sufficient corresponding structure.

1. The indefinite “means for ...” § 112, ¶ 6 terms of asserted claims 22 and 26

The Parties agree that all of the following “means for” terms are subject to § 112, ¶ 6, as well as on the function of each of these terms. However, each of these terms is indefinite for the specification’s failure to disclose clearly-linked, sufficient corresponding structure, as NEC explains below. Specifically, for each term, the specification fails to clearly link any hardware, software, algorithm, computer program code, instructions, special purpose processor, or other structure that is sufficient to perform the recited function. This is the reason that NEC asserts that every “means for” claim term discussed below is indefinite.

Because WSOU has proposed corresponding structure from the specification for each of these terms, NEC’s discussion focuses on why WSOU’s proposed “structure/material/acts” is

⁷ As discussed in footnote 1, *supra*, additional § 112, ¶ 6 terms for the ’213 patent are disputed and discussed in Appendix A, but not presented in this opening brief due to the Court’s 16-term limit for the upcoming *Markman* hearing.

neither clearly linked to performing the specified function by the specification, nor sufficient to do so. For every single “means for” term and its function, WSOU has collectively proposed the following consolidated structure or select portions of this structure:⁸

WSOU’s Proposed Corresponding Structure
<p>For each “means for” term in Sections VII.B(a)–(c), <i>infra</i>:</p> <p>Structure/material/acts: For example, [apparatus A (1300) or B (1302) and certain portions of steps 1–8 of Fig. 13], <u>communications module 230 of Fig. 2, memory 330 and processor 300 of Figs. 3, 7A, 8A, 9A, or 11, software-defined radio module 1102 and software modules 1110-1118 of Fig. 12, and steps 1406-1412 of Fig. 14A</u>, and the corresponding portions of the specification at <u>6:17-30, 6:50-7:22, 8:60-9:5, 17:8-52, 18:4-60, 19:62-20:4, 21:1-3, and 21:15-42</u>, and equivalents thereof.</p>

The red annotation and underlining identifies specification citations that WSOU belatedly added as part of a purported “supplement” to its proposed structure without any good cause to do so, and weeks after the Court’s P.R. 4-2 deadline. (*See Ex. 12.*)⁹

As discussed below, the above proposed structure by WSOU is not clearly-linked or sufficient to perform any of the specified functions for each of these “means for” terms. “A ‘structure disclosed in the specification is “corresponding” structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.’” *Digital Retail Apps, Inc. v. H-E-B, LP*, 2020 WL 376664, at *3 (W.D. Tex. Jan. 23, 2020) (Albright, J.) (quoting *Medtronic*, 248 F.3d at 1311). “The focus of the ‘corresponding structure’ inquiry is not merely whether a structure is capable of performing the recited function, but rather

⁸ NEC has consolidated WSOU’s proposed structure for each of the claim terms here for brevity and ease of discussion. Further, WSOU’s proposed structure for each “means for” term is substantially the same, with the exception certain steps and text of Figure 13.

⁹ Rather than burden the Court with a motion to strike, NEC addresses WSOU’s untimely supplement because it does not change that each of these § 112, ¶ 6 terms is indefinite.

whether the corresponding structure is ‘clearly linked or associated with the [recited] function.’” *Id.* (quoting *Medtronic*, 248 F.3d at 1311).

Further, the Court is not required to take upon itself WSOU’s lengthy specification citations in an attempt to divine what, if any, from them is actually linked to performing the specified § 112, ¶ 6 function, or sufficient to do so. *Cf. Bell N. Rsch., LLC v. Coolpad Techs., Inc.*, 2019 WL 3766688, at *6 (S.D. Cal. Aug. 9, 2019) (declining to “scour” plaintiff’s “absurdly overinclusive designation” to “locate, or otherwise ascertain from the blanket proffer made by Plaintiff what structure” is disclosed to provide the recited function). That is particularly so here where WSOU repeats the same lengthy blocks of specification text as structure for every § 112, ¶ 6 term, with the only exception being different parts Figure 13, leaving it to the Court (and NEC) to attempt to discern what actually is and is not corresponding structure.

(a) “means for formulating a configuration in the apparatus” (claim 22)

This phrase appears as element [22.d] of claim 22. The Parties agree that the specified function for this § 112, ¶ 6 term is “formulating a configuration in the apparatus.” WSOU proposes that the corresponding structure is the entire structure identified in Section VII.B.1 above, with the caveat that the portion of the structure from Figure 13 is Apparatus A and “process 4.” This structure is neither clearly-linked by the specification to performing the specified function, nor sufficient to do so. As a result, this “means for” term is indefinite.

The recited function here is very specific: *formulating* a configuration in the apparatus. (*See Shoemake Decl.* ¶ 75.) WSOU identifies as corresponding structure “apparatus A and process 4 of Fig. 13.” But as already discussed at the introduction to Section VII, *supra*, Figure 13 and its Apparatus A only disclose a “black box” for what comprises Apparatus A, not any specific structure—including, no specific structure for its annotation “4. Formulate connection

parameters.” (*Id.* ¶ 77.) This is a purely functional description that does not disclose any structure at all to a POSITA. (*Id.*) WSOU also proposes the following text from the specification as corresponding structure:

Once Apparatus A 1300 has both the remote and local characteristic information, a configuration for SDR module 1102 may be formulated. The configuration may define a transport, or a list of transports (e.g., in priority order), for use in communication with apparatus B 1302, channel selection for each transport (e.g., hopping patterns), error correction, Quality of Service (QoS) requirements, operational schemes (e.g., power saving, high speed, etc.), radio module priority (for conflict resolution), etc.

(’213 patent at 20:35–44.) Nothing in this brief passage discloses or clearly links any specific, corresponding structure for performing the claimed “formulating a configuration” function.

(Shoemaker Decl. ¶ 77.) This is a functional description that does not disclose any specific hardware, software, algorithm, computer code, instructions, steps, special-purpose processor, or other sufficient structure for performing the specified “receiving remote characteristic information” function. (*Id.*) The vague and generic recitation that “a configuration for SDR module 1102 *may be formulated*” does nothing to identify specific, clearly-linked corresponding structure to perform this function. (*Id.*) Further, this passage indicates that the configuration is “for SDR module 1102,” and therefore does not disclose that SDR module 1102 actually, itself, “formulate[s]” the configuration. (*Id.* ¶¶ 77–78.)

WSOU also identifies as corresponding structure “apparatus 1102 of Fig. 12, [and] apparatus 1104 of Fig. 11,” both of which appear to be the same “Software-Defined Radio (SDR) Module.” (*Id.* ¶ 78.) Neither of Figures 11 or 12 provide sufficient or clearly-linked structure for “formulating a configuration in the apparatus.” Also, as discussed above, the specification discloses that the configuration is “for SDR module 1102,” not that the SDR

module 1102 “formulate[s] a configuration.” (*Id.* ¶¶ 77–78.) WSOU proposes two more portions of the specification as corresponding structure, the first being the following text:

For example, an alternative communication configuration for WCD 100 is shown at 1102. In this example, the apparatus may incorporate at least one SDR module 1104 in lieu of one or more discrete hardware-based radio modules. While the flexibility of SDR module 1104 may provide an option of omitting some communication hardware from WCD100, this does not preclude the incorporation of one or more hardware based modules 1106. Implementations incorporating both SDR radio modules 1104 and hardware-based modules 1106 (represented as optional in FIG. 11 through the use of dotted lines) are possible.

(’213 patent at 17:34-44.) Nothing in this brief passage discloses formulating a configuration based on the local or remote characteristic information. (*Id.* ¶ 78.) Indeed, there is no mention of “characteristic information” at all. (*Id.*) The second portion of the specification WSOU identifies, shown below, does not solve this lack of disclosure:

FIG. 12 explains an example of a possible implementation of a SDR 1102 utilizing a previously disclosed embodiment of the present invention.

’213 patent at 18:4-6. Again, nothing in this one sentence discloses formulating a configuration. (*Id.* ¶ 78.) Further, Figure 12, reproduced below, fails to disclose that SDR module 1102 performs this “formulating” function, much less any hardware, software, algorithms, steps, computer program code, instructions, or other structure for doing so. (*Id.*)

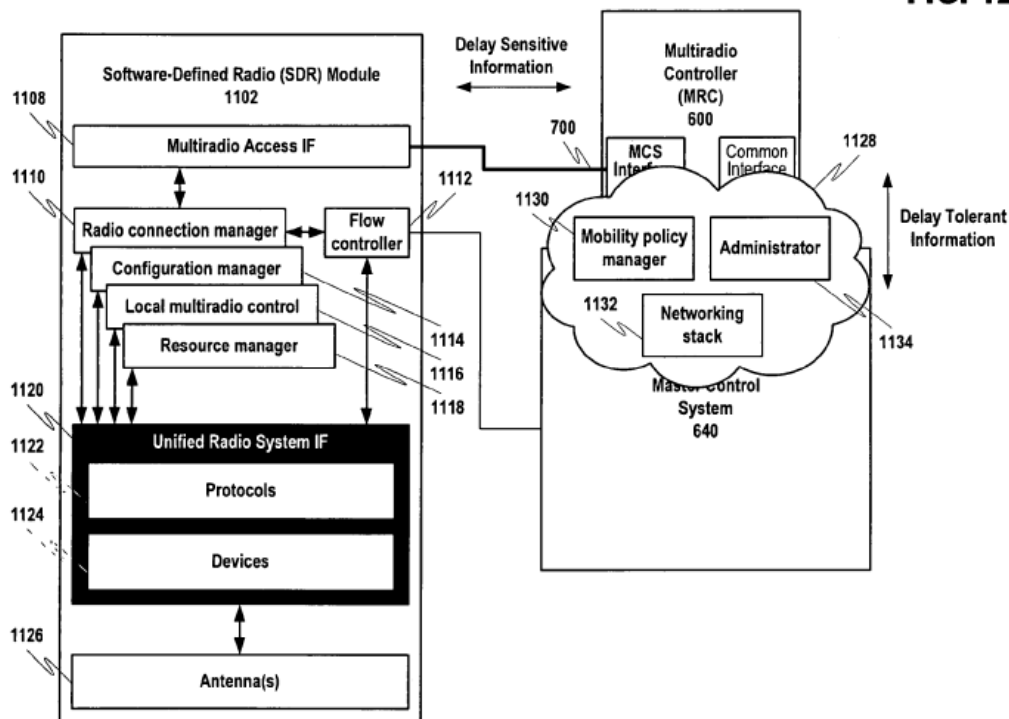
FIG. 12

Figure 12 discloses certain sub-components of the SDR module 1102, including Multiradio Access IF 1108, “manager” modules 1110, a “flow controller” 1112, a “Unified Radio System IF” 1120, and one or more Antennas 1126. (*Id.*) But WSOU does not identify any of these sub-components for performing the “formulating” function, and indeed nothing in the cited portions of the specification disclose or clearly link any of these components to “formulating a configuration in the apparatus.” (*Id.*)

As previously discussed in Section VII.B.1, *supra*, WSOU also belatedly disclosed portions of Figures 3, 7A, 8A, 9A, 11, 12, and 14A, with certain related specification text. But as NEC’s expert Dr. Shoemake explains, none of these additional portions are clearly linked or sufficient structure to perform the specified “formulating” function. (Shoemake Decl. ¶¶ 80–81.) As a result, WSOU’s late kitchen-sink disclosure does not save this term from indefiniteness.

This complete lack of any structure is only exacerbated by the specification's mentions of at least twenty one different communications protocols. (*See* '213 patent at, e.g., Fig. 3 and 7:22–8:11 (referring to long-range communications such as GSM, WCDMA, GPRS, PCS and WiMax; broadcast communications such as analog radio, DVB, and DAB; short-range communications such as Bluetooth, WLAN, UWB, BT-ULP, Wireless USB, Zigbee, and UHF RFID; and six additional “close-proximity communications” technologies).) The '213 patent does not give examples of or disclose corresponding structure for formulating a configuration for *any* of these communications protocols, much less all of them. (*See* Shoemake Decl. ¶ 81.) A POSITA is therefore left with no guidance whatsoever about what structure performs the function of “formulating a configuration in the apparatus,” particularly for these and any other communications protocols and standards. (*Id.* ¶¶ 81–82.)

For all of these reasons, WSOU's proposed corresponding structure fails. (*See id.* ¶ 82.) Furthermore, no other parts of the specification cure this failure or otherwise disclose clearly-linked, sufficient corresponding structure for performing the function of “formulating a configuration in the apparatus.” (*Id.*) This “means for” claim term is therefore indefinite for lack of corresponding structure.

(b) “means for implementing the configuration in the apparatus” (claims 22 and 26)

This phrase appears as element [22.f] of claim 22, and also as element [26.e] of claim 26. The Parties agree that the specified function for this § 112, ¶ 6 term is “implementing the configuration in the apparatus.” WSOU proposes that the corresponding structure is the same as previously discussed in Sections VII.B.1 and VII.B.1(a), *supra*, except that the structure from Figure 13 is Apparatus A and “process 6.”

This structure is neither clearly-linked by the specification to performing the specified function, nor sufficient to do so. As a result, this “means for” term is indefinite.

The recited function here once again is very specific: ***implementing the configuration*** in the apparatus. (See Shoemake Decl. ¶ 85.) WSOU identifies as corresponding structure “apparatus A and process 6 of Fig. 13.” But as already discussed at the introduction to Section VII, *supra*, Figure 13 and its Apparatus A only disclose a “black box” for what comprises Apparatus A, not any specific structure—including, no specific structure for its annotation “6. Set in A,” which is extremely conclusory. (*Id.* ¶ 86.) This is a purely functional description that does not disclose any structure at all to a POSITA. (*Id.*) WSOU also proposes only the following text related to Figure 13 from the specification as corresponding structure:

Apparatus A 1300 and apparatus B 1302 may then set the configuration. Setting a configuration may include, for example, programming one or more SDR modules 1102 in each apparatus for establishing communication in accordance with the configuration.

(’213 patent at 20:49–53.) Nothing in these two sentences discloses or clearly links any specific, corresponding structure for performing the claimed “implementing the configuration” function. (Shoemake Decl. ¶ 86.) This is a functional description that does not disclose any specific hardware, software, algorithm, computer code, instructions, steps, special-purpose processor, or other sufficient structure for performing the specified “implementing the configuration” function. (*Id.*) Instead, this only vaguely and generically recites that the configuration is “set,” while mentioning nothing about what structure performs the setting. (*Id.*)

WSOU’s proposed construction also identifies “apparatus 1102 of Fig. 12, apparatus 1104 of Fig. 11, and the corresponding portions of the specification at 17:34-44, 18:4-6.” These portions as well suffer from the same problems of do not disclose sufficient, clearly-linked corresponding structure. Confusingly, WSOU’s proposed construction relabels 1102 and 1104

of these figures as an “apparatus,” when 1102 of Figure 12 and 1104 of Figure 11 are both identified instead as a “Software Defined Radio (SDR) Module.” (*See* ’213 patent at Figs. 11 and 12, 17:35–37, 18:4–6; *see also* Shoemake Decl. ¶ 87.) These text portions of the specification state:

For example, an alternative communication configuration for WCD 100 is shown at 1102 [of Figure 11]. In this example, the apparatus may incorporate at least one SDR module 1104 in lieu of one or more discrete hardware-based radio modules. While the flexibility of SDR module 1104 may provide an option of omitting some communication hardware from WCD 100, this does not preclude the incorporation of one or more hardware based modules 1106. Implementations incorporating both SDR radio modules 1104 and hardware-based modules 1106 (represented as optional in FIG. 11 through the use of dotted lines) are possible.

* * * * *

FIG. 12 explains an example of a possible implementation of a SDR 1102 utilizing a previously disclosed embodiment of the present invention.

Nothing in these passages discloses or clearly-links any structure—much less sufficient structure—for performing the specified function of “implementing the configuration in the apparatus.” (*See* Shoemake Decl. ¶ 87.) Instead, as NEC’s expert Dr. Shoemake further explains in detail, these passages only suggest that a Software Defined Radio (SDR) is a possible component that itself can be configured by whatever performs the claimed function of “implementing the configuration”—assuming that the configuration relates to wireless radio communications. (*Id.* ¶¶ 87–88.) But this passage makes no mention of “implementing the configuration,” or of any specific hardware, software, algorithm, computer code, instructions, steps, special-purpose processor, or other sufficient structure that does so. (*Id.* ¶ 87.) The end result is that the specification provides nothing more than a functional recitation that whatever

configuration was previously determined is simply implemented, without any details about or particular structure for doing so. (*Id.*)

As discussed in Section VII.B.1(a), *supra*, WSOU also belatedly disclosed additional structure from Figures 3, 7A, 8A, 9A, 11, 12, and 14A, with certain related specification text. But as NEC’s expert Dr. Shoemake explains, none of this additional structure is clearly linked or sufficient to perform the specified “implementing” function. (Shoemake Decl. ¶¶ 89–90.) As a result, WSOU’s late kitchen-sink disclosure does not save this term from indefiniteness.

This complete lack of any structure is once again exacerbated by the specification’s mentions of at least twenty one different communications protocols. (*See* ’213 patent at, e.g., Fig. 3 and 7:22–8:11 (referring to various different long-range communications, broadcast communications, short-range communications, and close-proximity communications technologies).) The ’213 patent does not give examples of or disclose corresponding structure for implementing a configuration for *any* of these communications technologies, much less all of them. (*See* Shoemake Decl. ¶ 90.) A POSITA is therefore left with no guidance whatsoever about what structure performs the function of “implementing the configuration in the apparatus,” particularly for these communications technologies, protocols, and standards. (*Id.*)

For all of these reasons, WSOU’s proposed corresponding structure fails. (*See id.* ¶ 91.) Furthermore, no other parts of the specification cure this failure or otherwise disclose clearly-linked, sufficient corresponding structure for performing the function of “implementing the configuration in the apparatus.” (*Id.*) This “means for” claim term is therefore indefinite for lack of corresponding structure.

(c) **“means for establishing communication between the apparatus and at least one other apparatus in accordance with the configuration”
(claims 22 and 26)**

This phrase appears as element [22.g] of claim 22, and also as element [26.f] of claim 26. The Parties agree that the specified function for this § 112, ¶ 6 term is “establishing communication between the apparatus and at least one other apparatus in accordance with the configuration.” WSOU proposes that the corresponding structure is the same as previously discussed in Sections VII.B.1, VII.B.1(a), and VII.B.1(b), *supra*, except that the structure from Figure 13 is Apparatus A and “process 8.” This structure is neither clearly-linked to performing this function, nor sufficient to do so. The result once again is indefiniteness.

The recited function here is yet again very specific: *establishing communication* between the apparatus and at least one other apparatus *in accordance with the configuration*. (See Shoemake Decl. ¶ 94.) WSOU identifies as corresponding structure “apparatus A and process 8 of Fig. 13.” But as already discussed at the introduction to Section VII, *supra*, Figure 13 and its Apparatus A only disclose a “black box” for what comprises Apparatus A, not any specific structure—including, no specific structure for its annotation “8. Establish connection,” which is extremely conclusory. (*Id.* ¶ 95.) This is a purely functional description that does not disclose any structure at all to a POSITA. (*Id.*) WSOU also proposes the following single sentence of text related to Figure 13 from the specification as corresponding structure:

After the configuration is set in apparatus A 1300 and apparatus B 1302, either apparatus may initiate communication (e.g., establish a wireless link between apparatuses).

(’213 patent at 20:53–56.) Nothing in this extremely conclusory sentence discloses or clearly links any specific, corresponding structure for performing the claimed “establishing communication ... in accordance with the configuration” function. (Shoemake Decl. ¶ 95.) This is a functional description that does not disclose any specific hardware, software, algorithm,

computer code, instructions, steps, special-purpose processor, or other sufficient structure that establishes communication between the apparatuses, or that does so in accord with the configuration that was previously determined by Apparatus A and then received by Apparatus B. (*Id.*) Instead, this only vaguely and generically recites that the two apparatuses can then “initiate communication” once any configuration has been set. (*Id.*)

As discussed in Section VII.B.1(a), *supra*, WSOU also belatedly disclosed additional structure from Figures 3, 7A, 8A, 9A, 11, 12, and 14A, with certain related specification text. But as NEC’s expert Dr. Shoemake explains, none of this additional structure is clearly linked or sufficient to perform the specified “establishing” function. (Shoemake Decl. ¶¶ 96–97.) As a result, WSOU’s late kitchen-sink disclosure does not save this term from indefiniteness.

This complete lack of any structure is once again exacerbated by the specification’s mentions of at least twenty one different communications protocols. (*See* ’213 patent at, e.g., Fig. 3 and 7:22–8:11 (referring to various different long-range communications, broadcast communications, short-range communications, and close-proximity communications technologies).) The ’213 patent does not give examples of or disclose corresponding structure for establishing communication in accordance with the previously-formulated and implemented configuration for *any* of these communications technologies, much less all of them. (*See* Shoemake Decl. ¶ 97.) A POSITA is therefore left with no guidance whatsoever about what structure performs the function of “establishing communication between the apparatus and at least one other apparatus in accordance with the configuration,” particularly for these communications technologies, protocols, and standards. (*Id.*)

For all of these reasons, WSOU’s proposed corresponding structure fails. (*See id.*) Furthermore, no other parts of the specification cure this failure or otherwise disclose clearly-

linked, sufficient corresponding structure for performing the function of “implementing the configuration in the apparatus.” (*Id.*) This “means for” claim term is therefore indefinite for lack of corresponding structure.

2. The indefinite “computer program code configured to ...” § 112, ¶ 6 terms of asserted claims 8 and 24

As discussed in Sections VII.B.1(a)–(c), claims 22 and 26 collectively recite at least three “means for” terms that are indefinite. Claims 8 and 24 collectively then recite three terms that recite “computer program code configured to” perform the same functions as these three preceding indefinite “means for” terms. This is shown in the table below.

“Means for” terms (claims 22 and 26)	“Computer program code configured to” terms (claims 8 and 24)
[22.d] “means for formulating a configuration in the apparatus”	[8.d] “computer program code configured to formulate a configuration in the apparatus”
[22.f] and [26.e] “means for implementing the configuration in the apparatus”	[8.f] and [24.e] “computer program code configured to implement the configuration in the apparatus”
[22.g] and [26.f] “means for establishing communication between the apparatus and at least one other apparatus in accordance with the configuration”	[8.g] and [24.f] “computer program code configured to establish communication between the apparatus and at least one other apparatus in accordance with the configuration”

As already discussed in Sections VII.B.1(a)–(c), the specification does not clearly link any sufficient structure for performing any of these functions—including failing to disclose any computer program code, algorithms, instructions, or other specific steps that qualifies as specific structure for the recited “computer program code configured to” terms. As a result, the only question is whether each of these “computer program code configured to” terms is, in fact, governed by 35 U.S.C. § 112, ¶ 6. If they are, then they are indefinite for the reasons already discussed in Section VII.B.1. As explained below, every single one of these “computer program

code configured to” claim terms is, in fact, governed by § 112, ¶ 6. Because the specification fails to disclose and clearly link a specific computer code algorithm for performing each of these claimed functions—much less every function—each of these claim terms is indefinite.

To start, claim 8’s recitation of “computer program code configured to” perform the three functions above does not itself connote sufficient structure to perform these functions. Rather, the code “is defined only by the function that it performs.” *Cypress Lake*, 382 F. Supp. 3d at 615. Similarly, although the claim also recites “at least one apparatus” and “at least one other apparatus,” neither component provides additional structure beyond the “code” itself. *See, e.g., Dyfan*, 2020 WL 8617821, at *6 (finding that a “mobile device” recited in the asserted claim is “a general-purpose component which, in this case, executes generic ‘code’”); *see also id.* at *6 n.4 (“Were the Court to consider ‘mobile device’ to be sufficient structure for ‘code,’ then an applicant could simply recite two nonce words—‘processor’ and ‘code’—together in the claim in order to essentially write the claim in means-plus-function format without being subject to § 112, ¶ 6.”). Accordingly, each of these claim terms is governed by § 112, ¶ 6.

Because § 112, ¶ 6 applies and the corresponding structure is a special-purpose computer function, the specification must provide an algorithm for the software function. *Function Media*, 708 F.3d at 1318 (“When dealing with a ‘special purpose computer-implemented means-plus-function limitation,’ we require the specification to disclose the algorithm for performing the function.”). But here, WSOU has identified *no* algorithm in the specification, and there is none. For this reason, each of these claim terms is indefinite.

Moreover, those portions of the specification WSOU identified for the corresponding “means for” (claims 22) nevertheless fail to disclose and clearly link a specific computer code algorithm for performing each of these claimed functions. To take one example, none of the

citations WSOU provides for “formulating” a configuration in the apparatus discloses sufficient, clearly-linked structure for performing this function. (*See* Shoemake Decl. ¶¶ 74–83.) As discussed in Section VII.B.1(a), the portions WSOU cites are either irrelevant to formulating *a configuration* or else simply recite that a configuration “may be formulated” without identifying sufficient, clearly-linked structure for doing so. This failure to disclose sufficient structure is not solved by reciting generic “computer program code configured to” perform this function. As two additional examples, the same is also true for WSOU’s citations for “implementing” a configuration, (*id.* ¶¶ 84–92), and then “establishing communication” in accordance with the configuration, (*id.* ¶¶ 93–98). *See* Sections VII.B.1(b)–(c), *supra*. The specification’s failure to disclose sufficient, clearly-linked structure to perform these functions is not solved by reciting generic “computer program code configured to” perform these functions. These terms are therefore indefinite.

3. The indefinite “the processor being configured to ...” § 112, ¶ 6 terms of asserted claim 25

As discussed in Section VII.B.1, claims 22 and 26 collectively recite at least three “means for” terms that are indefinite. Claim 25 then recites “the processor being configured to” perform at least two of the same functions as the preceding three indefinite “means for” terms. This is shown in the table below.

“Means for” terms (claims 22 and 26)	“The processor being configured to” terms (claim 25)
[22.f] and [26.e] “means for implementing the configuration in the apparatus”	[25.f] “the processor being configured to implement the configuration in the apparatus”
[22.g] and [26.f] “means for establishing communication between the apparatus and at least one other apparatus in accordance with the configuration”	[25.g] “the processor being configured to establish communication between the apparatus and at least one other apparatus in accordance with the configuration”

As already discussed in Sections VII.B.1(b)–(c), the specification does not clearly link any sufficient structure for performing any of these functions—including failing to disclose any special-purpose processor and associated computer program code, algorithms, instructions, or other specific steps that qualifies as specific structure for the recited “the processor being configured to” terms. As a result, the only question is whether each of these “the processor being configured to” terms is, in fact, governed by 35 U.S.C. § 112, ¶ 6. If they are, then they are indefinite for the reasons already discussed in Sections VII.B.1(b)–(c). As explained below, these “the processor being configured to” claim terms are, in fact, governed by § 112, ¶ 6. Because the specification fails to disclose and clearly link a special purpose processor for performing each of these two claimed functions, these claim terms are also indefinite.

To start, claim 25’s recitation of a “processor being configured to” perform the “implementing” or the “establishing” function does not itself connote sufficient structure to perform either of these functions. Rather, the processor is a general-purpose component that, in this case, executes generic “code.” *Dyfan*, 2020 WL 8617821, at *6; *see also id.* at *6 n.4 (observing that “processor” is a “nonce word” triggering consideration under § 112, ¶ 6). As a result, the general-purpose processor recited alone cannot be sufficient structure. *See e.g.*, *Verisign*, 545 F.3d at 1366–67 (“[W]e have ‘consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.’” (quoting *Aristocrat*, 521 F.3d at 1333)). Accordingly, each of these claim terms is governed by § 112, ¶ 6. The disputed terms of claim 25 of the ’213 patent are very similar to those of claim 24, discussed immediately above. *See* Section VII.B.2, *supra*. The only difference for these terms is that claim 25 recites “the processor being configured to” perform the recited functions above, whereas claim 24 recites “computer program code configured to” perform these very same

functions. This difference is immaterial, though, because a processor is configured through computer program code that runs an algorithm in order to perform the configuration and to execute the recited functions above. (*See* Shoemake Decl. ¶¶ 99–103.) As a result, the above limitations reciting “the processor being configured to” are § 112, ¶ 6 limitations that require a corresponding, clearly-linked and sufficient algorithm disclosed by the specification.

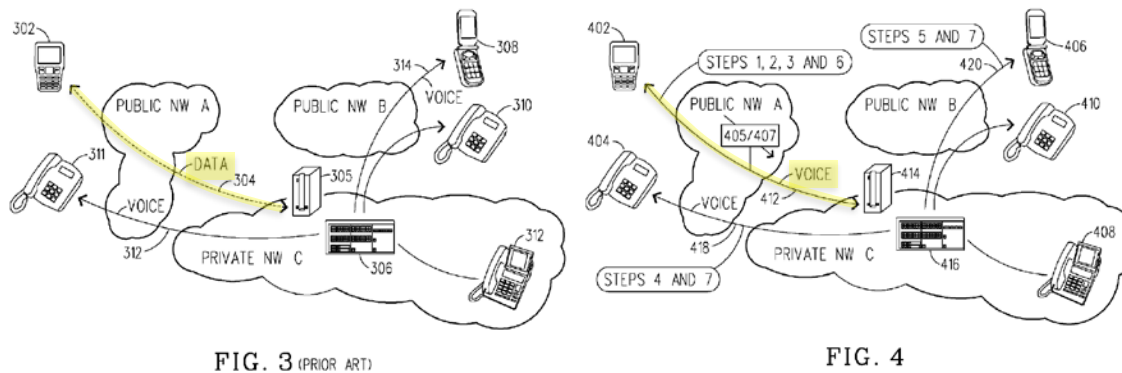
There is no such algorithm or program code as already explained earlier for claim 24. *See* Section VII.B.2, *supra*. These § 112, ¶ 6 terms of claim 25 are therefore indefinite because they lack any specific computer code, algorithm, or other clearly-linked corresponding structure, as already explained for claim 24. *See id.*; *see also* Sections VII.B.1(b)–(c), *supra* (explaining the lack of any clearly-linked, sufficient structure for performing these two functions, including the lack of any special-purpose processor structure or related algorithms).

VIII. U.S. PATENT NO. 9,065,918 (CASE NO. 6:20-CV-927-ADA)

The Parties dispute only one term. The ’918 patent relates generally to transferring a call to a more convenient number. The problem discussed in the ’918 patent is largely outdated today, and relates to the fact that 15 years ago when the ’918 patent was filed (in 2006), it could be expensive for a user to make a call and talk on a mobile phone due to a limited number of minutes or high prices for roaming. (*See* ’918 patent at, e.g., 1:12–25 and 1:52–67.) To avoid these “high” prices and fees and the use of voice minutes, prior art systems were developed to transfer a call on a mobile phone to a land line instead, which was free.¹⁰ (*See id.*) The ’918 patent describes some of these prior art systems in Figures 1–3 and at 1:11–3:30. Supposedly,

¹⁰ As the Court is surely aware, many people today do not have a landline at all, nor are there the same roaming or other fees for mobile phones that there were in 2006. Further, the prevalent 4G and forthcoming 5G telecommunications protocols are digital, not analog, and employ data channels for essentially all functionality, including to join a network, for call setup and signaling, for sending and receiving voice call information, and for other non-call data communications.

the drawback of these prior art systems was that they required the use of a “data channel” for call control and transfer, but some networks at that time did not support a data channel. (*See id.* at 3:20–32.) The ’918 patent supposedly improved over this prior art by using a voice channel instead to control the transfer of the call. This difference is most easily seen by comparing prior art Figure 3 with the Figure 4 embodiment of the alleged invention, shown side-by-side below:



As shown above, the figures are identical except for highlighted data channel 304 and highlighted voice channel 412. In prior art Figure 3, the voice call between convenient phone 311 and mobile phone 308 is set up by mobile phone 302 using “data channel 304.” (*See id.* at 2:41–3:11). In the alleged invention (shown in Figure 4), the voice call between convenient phone 404 and mobile phone 406 is instead set up by mobile phone 402 using voice connection 412. (*See id.* at 4:27–5:48.) Mobile phone 402 may use voice prompts and other dual tone multiple frequency (DTMF) signaling over the voice channel during the voice call—rather than data signaling as in the prior art—to control transfer of the call to another convenient number. (*See id.* at 4:27–5:48.) Performing call control using the voice channel (instead of a data channel) supposedly avoided data charges, minutes consumption, roaming fees, and other costs that would be incurred if call control was done over a data channel as in the prior art. (*See id.* at 5:49–64; *see also id.* at 3:19–32.) “Mobile phone 402 ... does not have to be a ‘smart’ mobile phone ... which is capable of interacting with a data network.” (*Id.* at 5:64–67.)

A. Terms Not Subject to 35 U.S.C. § 112, ¶ 6

1. “During the voice call”

NEC’s Construction	WSOU’s Construction
“Over a voice connection”	No construction necessary – plain and ordinary meaning

Because the specification of the ’918 patent (1) makes clear that the claimed improvement over the prior art results from transmitting call control information over a voice channel instead of a data channel and (2) discloses no embodiments having a data channel, the term “during a voice call” in claim 18 is properly construed to require that call control information be provided over a voice connection or channel.

It is true that, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quotation omitted). However, “when the preferred embodiment is described in the specification as the invention itself, the claims are not necessarily entitled to a scope broader than that embodiment.” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1330 (Fed. Cir. 2009) (quoting *Chimie v. PPG Indus. Inc.*, 402 F.3d 1371, 1379 (Fed. Cir. 2005)). That is the situation here, particularly with the specification’s juxtaposition and contrast between the alleged invention and the very similar prior art.

For example, in *Secure Web Conference Corp. v. Microsoft Corp.*, 640 F. App’x 910 (Fed. Cir. 2016), the Federal Circuit affirmed the lower court’s construction of the claim term “security device” to be “a *stand-alone* telecommunications device, *external to and separate from* the associated microprocessor,” *id.* at 913–14, after recognizing the following:

All descriptions of the security device in the intrinsic record are limited to a stand-alone device. Nothing in the intrinsic record

suggests that the patentee intended a broader notion of a security device. Significantly, at no point does the specification contemplate a security device embedded within a microprocessor-based device. To the contrary, the specification touts the separate and stand-alone nature of the security device as an advantage.

Id. at 914. Of particular importance was that “the specification repeatedly notes the importance of using an external security device, reinforcing that the security device of the invention is limited to stand-alone security devices.” *Id.* at 915; *see also Toro Co. v. White Consol. Indus.*, 199 F.3d 1295, 1300–01 (Fed. Cir. 1999) (construing a claim to require a particular configuration where the specification described the importance of the configuration and no others).

Similarly, the ’918 patent discloses only embodiments using a voice channel, and “touts” the voice channel as the advantage. *First*, the ’918 specification explains the improvement of the claimed invention over the prior art as resulting from transmitting call control information over a voice channel instead of a data channel. *See, e.g.*, ’918 Patent, 3:19–27, 5:59–64 (“Plus, ***the present invention*** is a marked improvement over the known Call Master service in that it allows the user of the mobile phone 402 to have a third party call control feature ***without needing a data subscription or having to establish a data connection with a data network.***”).

Second, each disclosed embodiment in the specification requires that the call control information be provided over a voice channel. *See, e.g., id.* at 4:38–44, 6:26–41, 6:56–7:6, 7:33–57; *see also id.* at 8:7–14 (“From the foregoing, it should be appreciated that a person can use their mobile phone to establish a voice connection with a central server, then send call control information ***in band in the voice channel*** (via a Voice User Interface (VUI), DTMF or Multi-Frequency (MF) signaling) to setup a call between a convenient phone (e.g., land-line phone or mobile phone which has a better tariff structure) and a destination phone.”). Accordingly, the term “during a voice call” in claim 18 is properly construed to require that the telephone numbers of the convenient phone and destination phone be provided over a voice connection.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of this document has been served on all counsel of record on September 10, 2021 by CM/ECF for those counsel who have appeared in the above-captioned matters.

By: /s/ Keith B. Davis
Keith B. Davis